

**PERMIT APPLICATION REVIEW
TEMPORARY COVERED SOURCE PERMIT NO. 0737-01-CT
Application for Significant Modification No. 0737-03**

Company: Maui Asphalt X-IV, LLC

Mailing Address: 92 Ting's Drive
Wailuku, Maui, Hawaii 96793

Facility: 225 TPH Portable Drum Mix Asphalt Plant

Location: Various Temporary Sites, State of Hawaii

Initial Location: Puunene Quarry, Puunene, Maui
UTM: 765,979 Meters East, 2,304,078 Meters North, Zone 4 (NAD 83)

SIC Code: 2951 (Asphalt Paving Mixtures and Blocks)

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Equipment:

Facility Equipment			
Equipment	Manufacturer	Model No.	Serial No.
225 TPH Drum Mixer with 75.6 MMBtu/hr Burner (increase from 160 TPH)	ADM	EX8842	DM 1193-12
Baghouse	ADM	BHP585-9	BH 1193-12
100 ton Silo	ADM	SS100	SI 1073-10
560 kW Kohler Genset (910HP)	Detroit Diesel Engine	MTU12V2000	535000536
Recycle Bin and Feeder System	ADM	RAP15	RB1193-01-13
* 250 TPH Asphalt Recycling Mill	ADM	LB3040	RP1193-01-13
* 122 TPH Scalping Screen	ADM	Unknown	RSS1193-01-13
4 Compartment Cold Feed Bin	ADM	4CFB20	CFB 1073-10
Various Conveyors	ADM		
0.45 MMBtu/hr Twin Stack Hot Oil Heater (insignificant activity)	ADM	Unknown	ACT 1073-10

* Added equipment for this significant modification.

BACKGROUND

Maui Asphalt X-IV, LLC has submitted a significant modification application for the temporary covered source permit to include a 250 TPH asphalt recycling mill and 122 TPH scalping screen.

The existing operating limit of 3,000 hours per year will be maintained on a rolling twelve-month (12-month) basis.

Process

Raw materials include aggregate and liquid asphalt. Aggregate types are proportioned by calibrated belt feeders onto a common collecting belt which transports the combined material into the drum. Hot liquid asphalt is added to the aggregate in the drum. Resulting mix is 93-95% aggregate and 5-7% liquid asphalt.

The drum mixer is of the counter flow design where the gas stream moves in the opposite direction to the aggregate. The burner is located at the discharged end of the drum mixer and the heated gases are pulled through a knock-out box at the material inlet of the drum, before entering the baghouse. The captured aggregate dust is returned to the drum via pneumatic conveyor. The final product is conveyed via a drag conveyor to the holding silo for truck load-out.

APPLICABLE REQUIREMENTS

Hawaii Administrative Rules (HAR)

Title 11 Chapter 59, Ambient Air Quality Standards

Title 11 Chapter 60.1, Air Pollution Control

Subchapter 1, General Requirements

Subchapter 2, General Prohibitions

11-60.1-31, Applicability

11-60.1-32, Visible Emissions

11-60.1-33, Fugitive Dust

11-60.1-38, Sulfur Oxides from Fuel Combustion

Subchapter 5, Covered Sources

Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural Burning

11-60.1-111, Definitions

11-60.1-112, General Fee Provisions for Covered sources

11-60.1-113, Application Fees for Covered sources

11-60.1-114, Annual Fees for Covered sources

11-60.1-115, Basis of Annual Fees for Covered Sources

Subchapter 8, Standards of Performance for Stationary Sources

11-60.1-161, New Source Performance Standards

Subchapter 9, Hazardous Air Pollutant Sources

Subchapter 10, Field Citations

Standard of Performance for New Stationary Sources (NSPS), 40 CFR Part 60

Subpart I - Standards of Performance for Hot Mix Asphalt Facilities is applicable to the 225 TPH hot mix asphalt facility because the facility commenced construction or modification after June 11, 1973.

40 Code of Federal Regulations (CFR) Part 60 – NSPS, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants is applicable to the asphalt mill and scalping screen because the asphalt mill has a capacity greater than 150 TPH.

40 CFR Part 60 – NSPS, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines does not apply to the portable diesel engine generators because the units will be operated as nonroad engines. Nonroad engines are exempt from 40 CFR Part 60, Subpart IIII.

National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 61
This source is not subject to NESHAPS as no hazardous air pollutants are emitted at significant levels and there are no NESHAPS requirements in 40 CFR Part 61.

40 CFR Part 63 – NESHAPS, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines is not applicable to the diesel engine generators because the units are nonroad engines. Nonroad engines are exempt from 40 CFR Part 63, Subpart ZZZZ. There are no other MACT requirements for this source.

Prevention of Significant Deterioration (PSD)

This source is not subject to PSD requirements because it is not a major stationary source as defined in 40 CFR 52.21 and HAR Title 11, Chapter 60.1, Subchapter 7.

Compliance Assurance Monitoring (CAM), 40 CFR 64

This source is not subject to CAM since the facility is not a major source. The purpose of CAM is to provide a reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 Code of Federal Regulations, Part 64, for CAM to be applicable, the emissions unit must: (1) be located at a major source; (2) be subject to an emissions limit or standard; (3) use a control device to achieve compliance; (4) have potential pre-control emissions that are 100% of the major source level; and (5) not otherwise be exempt from CAM.

Air Emissions Reporting Rule (AERR), 40 CFR Part 51, Subpart A

AERR is not applicable because emissions from the facility do not exceed AERR thresholds. See table, Total Facility Emissions and Trigger Levels (TPY), for results.

DOH Annual Emissions Reporting

The Clean Air Branch requests annual emissions reporting from those facilities that have facility wide emissions exceeding the DOH reporting level(s) and for all covered sources. Internal annual emissions reporting will be required because this is a covered source.

Best Available Control Technology (BACT)

This source is not subject to BACT analysis because the potential emissions from the modification are below significant levels. BACT analysis is required for new sources or modifications to sources that have the potential to emit or increase emissions above significant levels considering any limitations as defined in HAR, §11-60.1-1.

Synthetic Minor Source

A synthetic minor source is a facility that is potentially major as defined in HAR, §11-60.1-1, but is made non-major through federally enforceable permit conditions. This facility is a synthetic minor source because potential emissions do exceed major source thresholds (100 TPY) when the facility is operated at its maximum capacity continuously for 8,760 hours per year. The

facility is limited to operating a maximum of 3,000 hours per rolling twelve-month (12-month) period.

INSIGNIFICANT ACTIVITIES / EXEMPTIONS

Hot Oil Heater

The 0.45 MMBtu/hour (7 gal/hr) hot oil heater, twin stack, is considered an insignificant activity for its primary fuel, ULSD, in accordance with HAR §11-60.1-82(f)(2) because the heat input capacity is less than one (1) MMBtu/hr.

Storage Tanks

The following storage tanks are considered insignificant activities in accordance with HAR, §11-60.1-82(f)(1) because the capacities are less than 40,000 gallons each.

1. 1,500 gallon diesel fuel storage tank.

ALTERNATIVE OPERATING SCENERIOS

As an alternate operating scenario, the applicant will be allowed to replace the diesel engine generator with another diesel engine generator of similar or smaller size if replacement is required for the diesel engine generator. The alternative engine will be allowed as a replacement for period not to exceed twelve (12) consecutive months.

AIR POLLUTION CONTROLS

Baghouse

The drum mixer/dryer is equipped with a baghouse to control PM emissions.

Fuel Oil

ULSD (ultra low sulfur diesel, 15 ppm) is used for all equipment (primary fuel).

LPG, alternate fuel, can be used for the dryer/mixer drum and hot oil heater (secondary fuel)

PROJECT EMISSIONS

250 TPH Asphalt Recycling Mill and Scalping Screen

Emissions were bases on emission factors from AP-42 Section 11.19.2 (08/04) – Crushed Stone Processing and Pulverized Mineral Processing.

250 TPH Asphalt Recycling Mill and Scalping Screen		
Pollutant	Emissions (TPY) [8,760 hr/yr]	BACT Significant Level
PM	14.1	25
PM-10	6.2	15
PM-2.5	0.9	

PROPOSED

Previous Emissions

See previous review for individual emissions.

Previous Emissions (0737-02)		
Pollutant	Emissions (TPY) [3,000 hr/yr]	Emissions (TPY) [8,760 hr/yr]
CO	70.3	205.4
NOX	39.4	115.1
SO2	0.2	0.5
PM	24.3	71.0
PM-10	14.6	42.5
PM-2.5	3.4	10.0
VOC	19.2	56.2
HAPs	3.1	9.0

Total Emissions

Total facility emissions are summarized in the table below.

Total Facility Emissions and Trigger Levels (TPY)					
Pollutant	Previous Emissions [3,000 hr/yr]	Recycling Mill and Screen Emissions [8,760 hr/yr]	Total Facility Emissions	CERR Triggering Level (Type A sources / Type B sources)	DOH Level
CO	70.3	-	70.3	2,500 / 1000	250
NO _x	39.4	-	39.4	2,500 / 100	25
SO ₂	0.2	-	0.2	2,500 / 100	25
PM	29.1	14.1	43.2	-	25
PM-10	16.7	6.2	22.9	250 / 100	25
PM-2.5	3.7	0.9	4.6	250 / 100	-
VOC	19.2	-	19.2	250 / 100	25
HAPs	3.1	-	3.1	-	5

Modification from the addition of the 250 TPH asphalt recycling mill and scalping screen increased the emissions levels of PM, PM-10, and PM-2.5.

Green House Gas Emissions			
GHG	GWP	GHG Mass-Based Emissions (TPY)	CO ₂ e Based Emissions (TPY)
Carbon Dioxide (CO ₂)	1	70	70
Methane (CH ₄)	25	0	0
Nitrous Oxide (N ₂ O)	298	39	11622
Total Emissions:			11692

AIR QUALITY ASSESSMENT

An ambient air quality impact assessment (AAQIA) is not required because emissions due to the asphalt recycling mill and scalping screen plant are fugitive in nature. The Department air modeling guidance does not require an ambient air quality impact assessment for fugitive emissions. See previous review for the ambient air quality impact assessment (AAQIA) performed on the existing equipment.

SIGNIFICANT PERMIT CONDITIONS

1. The 225 TPH Portable Drum Mix Asphalt Plant is subject to the provisions of 40 CFR Part 60, Subpart A and Subpart I.
2. Drum Mixer/Dryer
 - a. The drum mixer/dryer shall be fired only on the following fuels:
 - i. Fuel oil no. 2 (ULSD) with a maximum sulfur content not to exceed fifteen (15) ppm by weight; and
 - ii. LPG.
 - b. The total operating hours of the drum mixer shall not exceed 3,000 hours in any rolling twelve-month (12-month) period.
 - c. The permittee shall not discharge or cause the discharge into the atmosphere from the baghouse servicing the drum mixer/dryer, particulate matter in excess of ninety (90) mg/dscm (0.04 gr/dscf).
3. Diesel Engine Generator
 - a. The diesel engine generator shall be fired only on the following fuels (for SO_x control):
 - i. Fuel oil no. 2 (ULSD) with a maximum sulfur content not to exceed fifteen (15) ppm by weight, and
 - b. The total operating hours of the diesel engine generator shall not exceed 3,000 hours in any rolling twelve-month (12-month) period.
4. Baghouse

The baghouse pressure differential shall be maintained within the range of two (2) to six (6) inches of water.

CONCLUSION

Actual emissions should be less than those estimated. Emission calculations were based on the maximum capacities of the equipment at 3,000 hours per rolling twelve month (12-month) period.

Based on the information submitted by Maui Asphalt X-IV, LLC it is the determination of the Department that the proposed modification will be in compliance with the Hawaii Administrative Rules, Chapter 11-60.1. Recommend issuance of the temporary covered source permit subject to the incorporation of the significant permit conditions, thirty-day (30-day) public comment period, and forty-five-day (45-day) Environmental Protection Agency review period.

Joseph Baumgartner
August 19, 2014